

AMENDMENTS TO THE CLAIMS

In the Application, please amend the set of claims as hereinafter indicated.

1. (Currently Amended) [[An]] A drivable imaging coil comprising:
a pair of end rings substantially centered around a common axis and spaced apart along the length of said axis;
a pair of balun-less drive cables respectively coupled to said end rings;
a central ring substantially centered around said axis so as to be parallel to and situated between said end rings; and
a plurality of legs coupled between said pair of end rings and said central ring;
wherein each of said end rings has a radius that is greater than the radius of said central ring, and said central ring is structurally adapted for being coupled to a ground reference during operation of said imaging coil.
2. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 1, wherein at least one of said end rings is elevated.
3. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 1, wherein each radius of said end rings is at least 1.0cm greater in length than said radius of said central ring.
4. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 1, wherein each radius of said end rings is within a range defined from 30.5cm and to 32.5cm.
5. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 1, wherein said radius of said central ring is less than 31.5cm.
6. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 1, wherein said plurality of legs includes more than 16 legs.

7. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 1, said imaging coil further comprising a plurality of capacitor groupings coupled along said pair of end rings, wherein each of said capacitor groupings includes a plurality of capacitors with a group coverage area having a width that is greater than 5.0cm.

8. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 1, wherein said central ring has a low impedance such that said central ring is effectively shorted to said ground reference when coupled to said ground reference during operation of said imaging coil.

9. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 1, wherein said pair of end rings, said central ring, and said plurality of legs are configured so as to form a birdcage-style imaging coil.

10. (Currently Amended) [[An]] A drivable imaging coil comprising:
a pair of end rings substantially centered around a common axis and spaced apart along the length of said axis;

a pair of balun-less drive cables respectively coupled to said end rings;

at least one central ring substantially centered around said axis so as to be parallel to and situated between said end rings; and

a plurality of legs coupled between said pair of end rings and said at least one central ring;

wherein said plurality of legs includes (i) a first series of legs coupled between one of said end rings and said at least one central ring and (ii) a second series of legs coupled between the other one of said end rings and said at least one central ring; and

wherein each of said end rings respectively has a radius that is greater than each respective radius of said at least one central ring, and at least one said central ring is structurally adapted for being coupled to a ground reference during operation of said imaging coil.

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11. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 10, wherein said pair of end rings, said at least one central ring, and said plurality of legs are configured so as to form a birdcage-style imaging coil.

12. (Currently Amended) [[An]] A drivable imaging coil comprising:
a first plurality of end rings substantially centered around a common axis and situated along the length of said axis;
a second plurality of end rings substantially centered around said axis and situated along the length of said axis so as to be spaced apart from said first plurality of end rings;
a plurality of balun-less drive cables coupled to said first and second plurality of end rings;
at least one central ring substantially centered around said axis so as to be parallel to and situated between said first and second plurality of end rings; and
a plurality of legs coupled between said first and second plurality of end rings and said at least one central ring;
wherein each of said first and second plurality of end rings respectively has a radius that is greater than each respective radius of said at least one central ring, and at least one said central ring is structurally adapted for being coupled to a ground reference during operation of said imaging coil.

13. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 12, wherein said first and second plurality of end rings, said at least one central ring, and said plurality of legs are configured so as to form a birdcage-style imaging coil.

14. (Currently Amended) [[An]] A drivable imaging coil comprising:
a plurality of end rings;
a plurality of balun-less drive cables coupled to said plurality of end rings;
at least one central ring situated both parallel to and between said plurality of end rings with at least one said central ring structurally adapted for being coupled to a ground reference and having a low impedance so that said central ring is effectively shorted to said ground reference when coupled to said ground reference; and

a plurality of legs coupled between said plurality of end rings and said at least one central ring.

15. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 14, wherein said plurality of end rings, said at least one central ring, and said plurality of legs are configured so as to form a birdcage-style imaging coil.

16. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 14, wherein said at least one central ring includes a plurality of capacitors having low impedance.

17. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 16, wherein said plurality of capacitors have low impedance at frequency levels of at least 120MHz.

18. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 14, wherein said plurality of end rings are adapted for being driven via a plurality of balun-less drive cables are adapted for being coupled to a radio-frequency (RF) signal transmitter and thereby communicating gradient pulses from said RF signal transmitter and to said plurality of end rings.

19. (Currently Amended) A magnetic resonance imaging (MRI) system having a patient bore, said MRI system comprising:

a radio-frequency radio-frequency (RF) shield; and

[[an]] a drivable imaging coil at least partially surrounded by said RF shield and including:

(i) a pair of end rings substantially centered around a common axis and spaced apart along the length of said axis;

(ii) a pair of balun-less drive cables respectively coupled to said pair of end rings;

(iii) a central ring substantially centered around said axis so as to be parallel to and situated between said pair of end rings, said central ring having a plurality of capacitors and a plurality of connections therebetween; and

(iv) a plurality of legs coupled between said pair of end rings and said central ring;

wherein each of said end rings has a radius that is greater than the radius of said central ring, and said central ring is structurally adapted for being coupled to a ground reference during operation of said MRI system.

20. (Currently Amended) An MRI system as set forth in claim 19, said MRI system further comprising a driver coupled to said pair of end rings via said pair of balun-less drive cables.

21. (Currently Amended) An MRI system as set forth in claim 19, wherein said end rings are closer to said RF shield than is said central ring.

22. (Currently Amended) An MRI system as set forth in claim 19, wherein said end rings are farther away from the patient bore of said MRI system than is said central ring.

23. (Currently Amended) An MRI system as set forth in claim 19, wherein said plurality of legs includes more than 16 legs.

24. (Currently Amended) An MRI system as set forth in claim 19, said MRI system further comprising a plurality of capacitor groupings coupled along said pair of end rings, wherein each of said capacitor groupings includes a plurality of capacitors with a group coverage area having a width that is greater than 5.0cm.

25. (Currently Amended) An MRI system as set forth in claim 19, wherein said central ring has a low impedance so that said central ring is effectively shorted to said ground reference when coupled to said ground reference during operation of said MRI system.

26. (Currently Amended) [[An]] A drivable imaging coil as set forth in claim 7, wherein said plurality of capacitors is spread out along said axis so as to form said group coverage area.